

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,821,756 B2  
DATED : November 23, 2004  
INVENTOR(S) : Satoshi Koizumi et al.

Page 1 of 7

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, Item [54] and Column 1, line 1,

Title, "**REPRODUCING**" should read -- **PRODUCING** --.

Title page,

Item [56], **References Cited**, FOREIGN PATENT DOCUMENTS,

"EP 0553821 8/1993" should be deleted (duplicate entry).

"JP 02177891 7/1990" should read -- JP 02-177891 7/1990 --.

OTHER PUBLICATIONS, "Zapata et al. J. Biol. Chem. vol. 264(25),14769-14774.\*"

should read -- Zapata et al. J. Biol. Chem., Vol. 264(25):14769-14774.\* --.

"J. Sci. Industr. Res., vol. 21C (Dec. 1962), pp. 352-354.; Pattabiraman et al.,."

should read -- J. Sci. Industr. Res., Vol. 21C (Dec. 1962), pp. 352-354. Pattabiraman et al. --.

"J. Org. Chem., vol. 57 (1992), pp. 146-151. Heidlas J.E. et al.,." should read -- J. Org.

Chem., Vol. 57 (1992), pp. 146-151. Heidlas J.E. et al. --.

"Analytic Biochemistry, vol. 91 (1978), pp. 490-495. Rao H K., Mendicino J.,." should read

-- Analytic Biochemistry, Vol. 91 (1978), pp. 490-495. Rao H K., Mendicino J. --.

Column 3,

Line 6, "bloth" should read -- broth --;

Line 13, "and" (first occurrence) should read -- an --;

Line 35, "pTR7" should read -- pTK7 --; and

Line 50, "galk" should read -- galK --.

Column 4,

Line 35, "(inorganic)pyrophosphatase" should read -- (inorganic) pyrophosphatase --.

Column 7,

Line 2, "DMA" should read -- DNA --; and

Lines 42, 44, 61 and 63, "Corynabacterium" should read -- Corynebacterium --.

Column 8,

Lines 12, 14, 58 and 60, "Corynabacterium" should read -- Corynebacterium --; and

Line 52, "in" should read -- is --.

Column 9,

Lines 33 and 35, "Corynabacterium" should read -- Corynebacterium --.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 10.

Line 8, "microorganism descried" should read -- microorganisms described --;  
Lines 24 and 25, "microorganism" should read -- microorganisms --;  
Line 30, "ism" should read -- isms --;  
Lines 32 and 45, "Corynabacterium" should read -- Corynebacterium --; and  
Line 62, "UDP-Glc fr" should read -- UDP GlcNAc from --.

Column 11.

Lines 3 and 18, "microorganisms" should read -- microorganism --;  
Table 2, "galU gene J. Biochem, 115, 965 (1994)" should read -- galU gene J. Biochem., 115, 965 (1994) --;  
Table 2, "glmU gene J. Bacteriol, 175, 6150 (1993)" should read -- glmU gene J. Bacteriol., 175, 6150 (1993) --; and  
Table 2, "pgm gene J. Bacteriol, 176, 5847 (1994)" should read -- pgm gene J. Bacteriol., 176, 5847 (1994) --.

Column 12.

Line 3, "organism" should read -- organisms --;  
Lines 4 and 67, "Corynabacterium" should read -- Corynebacterium --;  
Line 58, "coli DB1," should read -- coli DHL, --; and  
Line 66, "Corynabac-" should read -- Corynebac- --.

Column 13.

Line 1, "Corynabacterium" should read -- Corynebacterium --.

Column 14.

Line 7, "tetrayccline," should read -- tetracycline --; and  
Line 32, "culture" should read -- cultured --.

Column 15.

Line 32, "pyrivic" should read -- pyruvic --;  
Line 53, "Nymean" should read -- Nymeen --; and  
Line 55, "catyl" should read -- cetyl --.

Column 16.

Line 28, "UV 262 nM" should read -- UV 262 nm --; and  
Line 39, "in" should be deleted.

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Column 17.

Line 22, "Helicobactar" should read -- Helicobacter --; and  
Line 56, "culturesupernatant" should read -- culture supernatant --.

Column 18.

Line 2, "units" should read -- unit --;  
Line 15, "Mncl<sub>2</sub>," should read -- MnCl<sub>2</sub>, --;  
Line 46, "LS-tetrasaccharide  $\alpha$ ," should read -- LS-tetrasaccharide c, --; and "(3')sialyllacto-N-neotetraose" should read -- ( $\alpha$ 2,3)sialyllacto-N-neotetraose --; and  
Line 56, "N-acetylamannosamine," should read -- N-acetylmannosamine, --.

Column 19.

Line 1, "(3')sialyllacto-N-tetraose," should read -- ( $\alpha$ 2,3)sialyllacto-N-neotetraose, --;  
Line 13, "GlcNAc $\beta$ 1-4G1c, GlcNAc $\beta$ 1-3G1cNac," should read -- GlcNAc $\beta$ 1-4Glc, GlcNAc $\beta$ 1-3GlcNAc, --;  
Line 14, "GlcNAc $\beta$ 1-4GlcNAc, GlcNAc $\beta$ 1-6GalNAc," should read -- GlcNAc $\beta$ 1-4GlcNAc, GlcNAc $\beta$ 1-6GalNAc, --;  
Line 19, "GlcUA $\beta$ 1-3GalNAc," should read -- GlcUA $\beta$ 1-3GalNAc, --;  
Line 27, "6or" should read -- 6 or --; and  
Line 49, "N-acetylamannosamine, " should read -- N-acetylmannosamine, --; and "acide" should read -- acid --.

Column 20.

Lines 19 and 31, "treats" should read -- treated products --;  
Line 66, "(3')sialyllacto-N-neotetraose" should read -- ( $\alpha$ 2,3)sialyllacto-N-neotetrase --; and  
Line 67, "N-acetylamannosamine," should read -- N-acetylmannosamine, --.

Column 21.

Line 67, "N-acetylamannosamine," should read -- N-acetylmannosamine, --.

Column 23.

Line 2, "cataxahlis," should read -- catarahlis, --;  
Line 8, "sendai" should read -- Sendai --;  
Line 31, "bodas" should read -- bodies --;  
Line 54, "P<sub>L</sub>promoter" should read -- P<sub>L</sub> promoter --;  
Line 58, "BF-5407)" should read -- BP-5407 --;  
Line 65, "Difco),5" should read -- Difco), 5 --; and  
Line 66, "pH 7.2)" should read -- pH 7.2 --.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 24,

Line 54, "antisense" should read -- antisense --.

Column 25,

Line 38, "mid The" should read -- mid ¶ The --;

Line 39, "antisense" should read -- antisense --; and

Line 53, "gal" should read -- gel --.

Column 26,

Line 50, "MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- MgSO<sub>4</sub>·7H<sub>2</sub>O, --; and "0.1g/l CaCl<sub>2</sub>· 10 mg/l FeSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 0.1g/l CaCl<sub>2</sub>·2H<sub>2</sub>O, 10 mg/l FeSO<sub>4</sub>·7H<sub>2</sub>O, --;

Line 51, "ZnSO<sub>4</sub>·7H<sub>2</sub>O," should read -- ZnSO<sub>4</sub>·7H<sub>2</sub>O, --;

Line 66, "10 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 10 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O --; and "1.0 g/l CaCl<sub>2</sub>·2H<sub>2</sub>O," should read -- 1.0 g/l CaCl<sub>2</sub>·2H<sub>2</sub>O, --; and

Line 67, "FeSO<sub>4</sub>·7H<sub>2</sub>O," should read -- FeSO<sub>4</sub>·7H<sub>2</sub>O, --.

Column 27,

Line 1, "MnSO<sub>4</sub>·4-6H<sub>2</sub>O" should read -- MnSO<sub>4</sub>·4-6H<sub>2</sub>O --;

Line 2, "L-cystaine," should read -- L-cysteine, --;

Line 13, "Corynabacterium" should read -- Corynebacterium --;

Line 14, "5 g/l mg SO<sub>4</sub>·7H<sub>2</sub>O," should read -- 5 g/l mgSO<sub>4</sub>·7H<sub>2</sub>O, --;

Line 16, "Nymean" should read -- Nymeen --;

Line 34, "antisense" should read -- antisense --; and

Line 66, "agarosa" should read -- agarose --.

Column 28,

Line 29, "chlorampha-" should read -- chloramphe- --;

Line 35, "NM 522/pNT25/pNT 32" should read -- NM522/pNT25/pNT32 --;

Lines 38, 45, 61 and 66, "Corynabacterium" should read -- Corynebacterium --;

Line 47, "MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- MgSO<sub>4</sub>·7H<sub>2</sub>O, --;

Line 48, "Nymean" should read -- Nymeen --; and

Line 55, "ws" should read -- was --.

Column 29,

Line 2, "Corynabacte-" should read -- Corynebacte- --;

Line 3, "ammoniagenese" should read -- ammoniagenes --;

Lines 21, 47 and 60, "Corynabacterium" should read -- Corynebacterium --;

Line 42, "a" should be deleted; and

Line 62, "then for" should read -- then at 40°C for --.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 30,

Line 2, "Corynabacterium" should read -- Corynebacterium --;  
Line 3, "5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O, --;  
Line 4, "Nymean" should read -- Nymeen --; and  
Line 20, "antisence" should read -- antisense --.

Column 31,

Lines 5, 36 and 66, "antisence" should read -- antisense --;  
Line 11, "tho" should read -- the --;  
Line 42, "th" should read -- the --; and  
Line 46, "gal" should read -- gel --.

Column 32,

Line 2, "plate," should read -- template, --;  
Line 8, "gal" should read -- gel --;  
Line 18, "NW522" should read -- NM522 --; and  
Line 52, "antisence" should read -- antisense --.

Column 33,

Line 7, "plamid" should read -- plasmid --;  
Line 14, "gal" should read -- gel --;  
Line 19, "fragments" should read -- fragment --;  
Line 22, "coil" should read -- coli --;  
Line 34, "UDP-GlcHAc" should read -- UDP-GlcNAc --;  
Line 35, "KY8415/pNT14,NM522/pNT24," should read -- KY8415/pNT14, NM522/  
pNT24, --;  
Line 45, "6mM MgCl<sub>2</sub>·6H<sub>2</sub>O," should read -- 6mM MgCl<sub>2</sub>·6H<sub>2</sub>O, --;  
Line 46, "Nymean" should read -- Nymeen --;  
Line 53, "UDP-GlcNac" should read -- UDP-GlcNAc --; and  
Line 67, "NH522/pNT47" should read -- NM522/pNT47 --.

Column 34,

Line 12, "pT47" should read -- pNT47 --;  
Line 15, "MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- MgSO<sub>4</sub>·7H<sub>2</sub>O, --;  
Line 63, "5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O, --; and  
Line 65, "200 ml," should read -- 200 ml beaker, --.

Column 35,

Line 23, "5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O, --; and  
Line 42, "antisence" should read -- antisense --.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 36,

Line 40, "chloramphanicol" should read -- chloramphenicol --;  
Line 42, "fr" should read -- from --;  
Line 49, "antisence" should read -- antisense --;  
Line 58, "gal" should read -- gel --; and  
Line 65, "subjected" should read -- were subjected --.

Column 37,

Lines 2 and 18, "chloramphanicol" should read -- chloramphenicol --;  
Line 15, "NM522/pnK7" should read -- NM522/pNK7 --;  
Line 26, "thus obtained the" should read -- the thus obtained --;  
Line 38, "MgSO<sub>4</sub>.7H<sub>2</sub>O" should read -- MgSO<sub>4</sub>·7H<sub>2</sub>O --; and  
Line 53, "antisence" should read -- antisense --.

Column 38,

Line 20, "NM522/pnK7/pNT55" should read -- NM522/pNK7/pNT55 --;  
Line 37, "MgSO<sub>4</sub>.7H<sub>2</sub>O," should read -- MgSO<sub>4</sub>·7H<sub>2</sub>O, --;  
Line 54, "antisence" should read -- antisense --; and  
Line 66, "gal" should read -- gel --.

Column 39,

Line 1, "SR + DNA" should read -- SK + DNA --;  
Line 2, "RI," should read -- BamHI, --;  
Line 19, "gal" should read -- gel --;  
Line 47, "Corynabacterium" should read -- Corynebacterium --;  
Line 50, "An" should read -- As --;  
Line 55, "C600/pNALI1" should read -- C600/pNALI --; and  
Line 60, "MgSO<sub>4</sub>.7H<sub>2</sub>O" should read -- MgSO<sub>4</sub>·7H<sub>2</sub>O --.

Column 40,

Lines 12 and 28, "RPMI1640.ITPSGF" should read -- RPM1640.ITPSGF --.

Column 42,

Lines 18 and 20, "plamid" should read -- plasmid --; and  
Line 43, "5 g/l MgSO<sub>4</sub>.7H<sub>2</sub>O" should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O --.

Column 43,

Line 11, "5 g/l MgSO<sub>4</sub>.7H<sub>2</sub>O" should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O --;  
Line 34, "antisence" should read -- antisense --; and  
Line 45, "Gone" should read -- Gene --.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 44,

Line 3, "arose" should read -- agarose --;  
Lines 27, 35, 55 and 64, "Corynabacterium" should read -- Corynebacterium --;  
Line 38, "g/l MgSO<sub>4</sub>·7H<sub>2</sub>O" should read -- g/l MgSO<sub>4</sub>·7H<sub>2</sub>O --; and  
Line 66, "5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O, --.

Column 45,

Line 5, "KH<sub>2</sub>PO4" should read -- KH<sub>2</sub>PO<sub>4</sub> --.

Column 46,

Line 6, "5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O," should read -- 5 g/l MgSO<sub>4</sub>·7H<sub>2</sub>O, --; and  
Line 20, "solo" should read -- sole --.

Column 51,

Sequence Listing ID 17, "(close up space)" and "(b)" should read -- (B) --.

Column 56,

Line 51, "cells," (second occurrence) should read -- cells --; and  
Line 52, "cells" should read -- cells, --.

Signed and Sealed this

Thirty-first Day of May, 2005

A handwritten signature in black ink, appearing to read "Jon W. Dudas". The signature is stylized with a large, looped initial "J" and a distinct "D".

JON W. DUDAS  
*Director of the United States Patent and Trademark Office*